

II. "On the Anatomy of *Victoria Regia*." Part II. By ARTHUR HENFREY, Esq., F.R.S., F.L.S. &c., Professor of Botany in King's College, London. Received May 5, 1859.

(Abstract.)

This paper is a continuation of one published in the Philosophical Transactions for 1852 (p. 289), and discusses the general question of the anatomical structure of the stems of Monocotyledons and Dicotyledons, especially in reference to some objections taken against the author's views respecting the stems of the Nymphaeaceæ. Certain peculiarities of the structure of roots are next examined, and these are shown to be formed on the Dicotyledonous type in *Victoria*.

The germination of the seed is described in a manner differing to some extent from the accounts given by Planchon, Trécul, and Hooker. The error of Trécul, in stating that the earlier leaves are devoid of a stipule, is shown to depend upon his overlooking the true axillary position of that organ.

The Phyllotaxy is next treated, with the development and arrangement of the leaves and roots; lastly, a complete history of the development of the flower, showing that the apparently inferior position of the ovary depends upon a great enlargement of the receptacle after the formation of the various organs forming the flower.

III. "On the Conductivity of Mercury and Amalgams." By F. CRACE CALVERT, Esq., and R. JOHNSON, Esq. Communicated by Professor STOKES, Sec. R.S. Received April 14, 1859.

(Abstract).

The object of the researches described in this paper, was to carry out with reference to amalgams the investigations relative to alloys contained in a former paper. In comparing the results of theory and experiment in the manner followed in the former paper, the conducting power of mercury itself was a constant, which it was essential to know. The figure given in the former paper was mercury=677, on the scale silver=1000. On adopting in the first instance this value of the conducting power of mercury, the results